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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/882,317	06/15/2001	Shuo-Yen Robert Li	Li 6	8436
7590	02/23/2005		EXAMINER TON, ANTHONY T	
John T. Peoples 14 Blue Jay Court Warren, NJ 07059			ART UNIT 2661	PAPER NUMBER

DATE MAILED: 02/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	09/882,317	LI, SHUO-YEN ROBERT	
	<b>Examiner</b>	<b>Art Unit</b>	
	Anthony T Ton	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 15 June 2001.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10, 17 and 19 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-8, 11-14, 18 and 20 is/are rejected.
- 7) ☒ Claim(s) 5, 9, 15 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 June 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.



#### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
 Paper No(s)/Mail Date 6/15/01.
- 4) ☐ Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

## DETAILED ACTION

### *Claim Rejections - 35 USC § 112*

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. **Claims 12, 18 and 20** are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter, which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The claims 12, 18 and 20 recite the subject matter of a switching fabric comprising a plurality of interconnected primitive switches in cascade. Such a switching fabric comprising a plurality of interconnected primitive switches in cascade was not described in both the Applicants' specification and drawings.

### *Claim Rejections - 35 USC § 102*

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. **Claims 1, 2, 4, 6, 7, 11, 13 and 14** are rejected under 35 U.S.C. 102(b) as being anticipated by *Galand et al.* (US Patent No. 5,568,477) hereinafter referred to as *Galand*.

a) **In Regarding to Claim 1:** *Galand* disclosed a method for concurrently routing frames through a switch wherein each of the frames is formatted with one of a plurality of formats (*see Fig.4: VL trunk and ATM trunk; and col.1 line 65 – col.2 line 19: variable length format or fixed length format*), the method comprising:

identifying the format of each of the frames (*see col.4 lines 46-54 and col.5 lines 32-50*),  
and

controlling the operation of the switch with reference to the format of each of the frames (*see Fig.4: GPP boxes, and col.4 lines 23-38: general purpose controller, a single powerful processor*).

b) **In Regarding to Claim 2:** *Galand* further disclosed the switch is configured with connections states (*see Fig.4: GPP boxes, and col.4 lines 23-38: general purpose controller, a single powerful processor. These controllers are used to control connections states*) and wherein each of the frames has a first format or a second format (*see col.4 lines 46-54 and col.5 lines 32-50: VL format (1st format) or ATM format (2nd format)*) and wherein the controlling includes controlling the connection states of the switch so that a frame with the first format has precedence over a frame with the second format (*see Fig.4: at the R\_TPA 41, VL packets are arranged to follow ATM cells before reaching the switch 44, and the output of the switch 44, the ATM cells are switched after the VL packets (FILO, first in last out in a configuration of a stack), hence the first format (for VL packets) has precedence over a frame with second format (for ATM cells)*).

c) **In Regarding to Claim 4:** *Galand* further disclosed the controlling includes latching the connection states of the switch for a duration con-responding to each of the frames if at least

one of the frames has the first format (*see Fig.7: GPP and step 5 (hence, VL packet is the first format); Fig.11: Register 116, re-alignment/segmentation command line 120 and RS 122; and see col.10 line 27 – col. 11 line 24: MP clock. In which, the command line 120 would latch data stored in the register 116 into the RS 122 per each MP clock cycle).*

**d) In Regarding to Claim 6:** *Galand* further disclosed the method further including additional switches so that all switches form interconnected switches (*see col.1 lines 51-54: switching nodes interconnected by transmission links or trunks*), the identifying including identifying at each of the additional switches the format of each of the frames (*see col.4 lines 46-54 and col.5 lines 32-50*), and the controlling including controlling the operation of each of the additional switches with reference to the format of each of the frames (*see Fig.4: GPP boxes, and col.4 lines 23-38: general purpose controller, a single powerful processor*).

**e) In Regarding to Claim 7:** *Galand* disclosed a method for operating a switch configured with connections states, the method comprising

defining a dual-format frame for concurrently routing a plurality of frames through the switch (*see Fig.7: step4; wherein the data of VL packets would be encapsulated with ATM cells (hence, a dual-format frame); and col.1 line 65 – col.2 line 19: variable length format or fixed length format*),

identifying at the switch the format of each of the frames (*see col.4 lines 46-54 and col.5 lines 32-50*), and

controlling the connection states of the switch with reference to the format of each of the frames (*see Fig.4: GPP boxes, and col.4 lines 23-38: general purpose controller, a single powerful processor*).

e) **In Regarding to Claims 11, 13 and 14:** the subject matters of these claims as the same as that of claims 1, 2 and 4, respectively. Therefore, the rejections to the claims 1, 2 and 4 would also apply to the rejection of these claims in a switch as taught.

***Claim Rejections - 35 USC § 103***

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. **Claim 3** is rejected under 35 U.S.C. 103(a) as being unpatentable over *Galand et al.* (US Patent No. 5,568,477) in view of *Opalka et al.* (US Patent No. 6,259,699) herein after referred to as *Opalka*.

*Galand* disclosed all aspects of this claim as set forth in claims 1 and 2; and further disclosed the identifying including determining if each of the frames is of the first format or the second format (*see col.4 lines 46-54: R\_TPA (41) receives VL or ATM packets*).

*Galand* fails to explicitly disclose the first format contains a single large packet and the second format contains a plurality of small packets.

*Opalka* explicitly disclosed such the first format contains a single large packet and the second format contains a plurality of small packets (*see col.3 lines 17-31: a 1004-byte frame (a single large packet (4-byte header and 1000-byte payload), and 21 ATM cells (small packets)*).

At the time of the invention, it would be obvious to a person of ordinary skill in the art to implement such the first format contains a single large packet and the second format contains a

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plurality of small packets, as taught by *Opalka* with *Galand*, so that appropriate types of packets can be implemented before switching to destinations. The motivation for doing so would have been to decrease both overhead bandwidth in large data packets and end-to-end latency in small real-time packets (*see Opalka: col.3 lines 31-52*). Therefore, it would have been obvious to combine *Opalka* with *Galand* in the invention as specified in the claim.

7. **Claim 8** is rejected under 35 U.S.C. 103(a) as being unpatentable over *Galand et al.* (US Patent No. 5,568,477) in view of *Opalka et al.* (US Patent No. 6,259,699) as applied to claim 7 above, and further in view of *Mejia* (US Patent Application Publication No. US 2002/0176526 A1).

*Galand* disclosed all aspects of this claim as set forth in claim 7.

*Galand* fails to explicitly disclose the dual-format includes a first format contains a single large packet and the second format contains a plurality of small packets.

*Opalka* explicitly disclosed such a first format contains a single large packet and the second format contains a plurality of small packets (*see col.3 lines 17-31: a 1004-byte frame (a single large packet (4-byte header and 1000-byte payload), and 21 ATM cells (small packets)*).

At the time of the invention, it would be obvious to a person of ordinary skill in the art to implement such a first format contains a single large packet and the second format contains a plurality of small packets, as taught by *Opalka* with *Galand*, so that appropriate types of packets can be implemented before switching to destinations. The motivation for doing so would have been to decrease both overhead bandwidth in large data packets and end-to-end latency in small

real-time packets (*see Opalka: col.3 lines 31-52*). Therefore, it would have been obvious to combine *Opalka* with *Galand* in the invention as specified in the claim; and

*Galand* also fails to explicitly disclose the controlling includes latching the connection states of the switch for a duration corresponding to the large packet if at least one of the frames has the first format.

*Mejia* explicitly disclosed such the controlling includes latching the connection states of the switch for a duration corresponding to the large packet if at least one of the frames has the first format (*see Figs.1 and 3: Local Clock Source 101 comprising a zero phase clock signal (F=X) that latches the resultant data stream A into the Interleaver 103*).

At the time of the invention, it would be obvious to a person of ordinary skill in the art to implement such the controlling includes latching the connection states of the switch for a duration corresponding to the large packet if at least one of the frames has the first format, as taught by *Mejia* with *Galand*, so that data of packets can be tagged or latched to a storage or a next device in a switching node. The motivation for doing so would have been to clock one of the separated bit streams or packets into a storage or output of a switching device (*see Mejia: Para [0022] in page 3*). Therefore, it would have been obvious to combine *Mejia* with *Galand* in the invention as specified in the claim.

#### ***Allowable Subject Matter***

8. **Claims 10, 17 and 19** are allowed.

9. **Claims 5, 9, 15 and 16** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.




***Conclusion***

10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to **Anthony T Ton** whose telephone number is **571-272-3076**. The examiner can normally be reached on M-F: 9:00 am - 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, **Chau Nguyen** can be reached on **571-272-3126**. The fax phone number for the organization where this application or proceeding is assigned is **703-872-9306**.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully submitted,

by:   
Anthony T. Ton  
Patent Examiner  
February 18, 2005

  
**PHIRIN SAM**  
**PRIMARY EXAMINER**